

EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING NON-PHARMACOLOGICAL MANAGEMENT OF PROCEDURAL PAIN IN NEONATES AMONG STAFF NURSES

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ABSTRACT

Background and objectives: The aim of non-pharmacological pain management is to utilize available non-pharmacological methods during painful procedures to minimize pain and distress in neonates. There are seven main non-pharmacological methods that are commonly used to relieve pain in neonates. These methods being Breast feeding, Skin to skin contact, Music, Non-Nutritive sucking, Swaddling, Facilitated tucking, oral sucrose. These non-pharmacological methods shows greater reduction in behavioural and physiological responses to acute procedural pain and modulates pain perception and facilitates self-regulation in less intensive painful procedures and may decrease hyperactivity and regulate new-borns' discomfort. The study was done to identify the Effectiveness of Structured Teaching programme on knowledge regarding Non Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital Mahabubnagar, Telangana. **Materials and methods:** The research design adopted for the study was one group pre-test and post test, which belongs to pre experimental design. 30 staff nurses were selected by using simple random sampling technique of probability sampling technique method. A structured self-administered questionnaire was used for data collection which consisted of two parts. Part A consisting of 10 demographic data of the staff nurses and Part B consisting of 45 items regarding Non Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital, Mahabubnagar. Post-test was conducted after 4 weeks. **Results:** The collected data was analysed by using both descriptive and inferential statistics such as frequency and percentage distribution, mean, standard deviation, paired "t" test and chi square test at 0.001 levels of significance with 29 df. The pre-test mean was 17.3 with 9.43 standard deviation and that of post test was 33.7 with 7.26 standard deviation. The calculated 't' value was 13.60, which is higher than the table 't' value 3.65 at 29df with 0.001 level of significance. It shows that there is significant difference ($p < 0.001$) in pre-test and post test knowledge scores. Hence it concluded after structured teaching programme on Non-Pharmacological management of Procedural pain in Neonates the knowledge scores of the Staff nurses have been increased. **Conclusion:** The study has showed that there was an overall improvement in the knowledge of the mothers after implementation of structured teaching programme. **Key words:** non-pharmacological, neonates, procedural pain.

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INTRODUCTION:

The advancements in medical technology and nursing care have ensured that sick premature and term neonates have higher survival chances than they had even a decade ago. Some neonates require specialized care and support and therefore nursed in special care and intensive care settings. Many of these neonates experience numerous painful experiences as early as the first days of life, such as the intramuscular administration of vitamin K and skin perforation to measure blood glucose. New-borns admitted to Neonatal Intensive Care Units (NICUs) are constantly exposed to painful procedures of varying intensities such as surgeries, tracheal cannula aspirations, and venous punctures, among others. The number of painful interventions per new-born was 364 in the first 14 days of hospitalization, and an average of 12 painful procedures and 16 stressful procedures per day.

Repeated painful procedures early in life may permanently disrupt the developing central nervous system that affects the development of nociceptive circuits and early tissue injury may contribute to hyperalgesia, allodynia, and prolonged alterations in somato sensory function.

The aim of non-pharmacological pain management is to utilize available non-pharmacological methods during painful procedures to minimize pain and distress in neonates. There are seven main non-pharmacological methods that are commonly used to relieve pain in neonates. These methods being Breast feeding, Skin to skin contact, Music, Non-Nutritive sucking, Swaddling, Facilitated tucking, oral sucrose. These non-pharmacological methods shows greater reduction in behavioural and physiological responses to acute procedural pain and modulates pain perception and facilitates self-regulation in less intensive painful procedures and may decrease hyperactivity and regulate new-borns' discomfort.

NEED FOR THE STUDY:

The International Evidence-Based Group for Neonatal Pain and the American Academy of Paediatrics recommend that all neonatal units develop strategies to minimize the number of minor painful or stressful procedures and to provide effective pain relief interventions for new-borns. Neonates in a neonatal intensive care unit are exposed to a high number of painful procedures. Neonatal intensive care involves a high number of diagnostic and therapeutic procedures which are associated with pain for the neonates concerned. Most of the painful interventions included capillary blood sampling by heel stick, followed by endotracheal suctioning. A study conducted in Delhi, 2010 on Neonates experienced 60,969 first-attempt procedures, with 42,413 (69.6 percent) painful and 18,556 (30.4 percent) stressful procedures; 11,546 supplemental attempts were performed during procedures including 10,366 (89.8 percent) for painful and 1,180 (10.2 percent) for stressful procedures. The average number of all procedures per neonate was 141 and the average number of procedures per day of hospitalization was 16.

The purpose of this study is to provide healthcare professionals with evidence-based guidelines on how to incorporate non-pharmacologic interventions to relieve procedure-induced pain in neonates. Nurses, who spend more time with patients in pain, are sometimes seen as major contributors to the problem of inadequate Neonatal pain management. Why pain is under assessed and undertreated is not entirely understood. However, some of the literature suggested that this may be due to personal barriers such as knowledge, empathy, beliefs, and values.

PROBLEM STATEMENT:

"Evaluate the Effectiveness of Structured Teaching programme on knowledge regarding Non Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital Mahabubnagar ,Telangana".

OBJECTIVES:

- To assess the existing knowledge on Non-Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital by conducting pre-test.
- To evaluate the effectiveness of structured teaching programme on Non-Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital by conducting post test.
- To determine the association between post test knowledge scores on Non-Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital with their selected demographic variables.

HYPOTHESIS:

- H₁: There will be significant difference between pre and post test knowledge scores of staff nurses on Non-Pharmacological management of Procedural pain in Neonates.

- H₂: There will be significant association between post test knowledge score among staff nurses at SVS Hospital regarding Non Pharmacological management of Procedural pain in Neonates with selected demographic variables

MATERIALS AND METHODS:

The research design adopted for the study was one group pre-test and post test, which belongs to pre experimental design. 30 staff nurses were selected by using simple random sampling technique of probability sampling technique method. A structured self-administered questionnaire was used for data collection which consisted of two parts. Part A consisting of 10 demographic data of the staff nurses and Part B consisting of 45 items regarding Non Pharmacological management of Procedural pain in Neonates among staff Nurses working in NICU of SVS Hospital, Mahabubnagar. Post-test was conducted after 4 weeks.

A pilot study was conducted on 16/08/2020 to 26/08/2020 at paediatric NICU of S.V.S Hospital, Mahabubnagar, Telangana, after obtaining formal permission from residential director of S.V.S Hospital to assess the feasibility and reliability of the tool. The obtained value of Karl Pearson correlation of coefficient was $r = 0.99$, which infers the tool as reliable. The main study was conducted from 03/09/2020 to 04/09/2020. The collected data was analysed by using both descriptive and inferential statistics such as frequency and percentage distribution, Mean, standard deviation, paired 't' test and chi square test at 0.01 level of significance with 29 df.

RESULTS:

The collected data was analysed by using both descriptive and inferential statistics such as frequency and percentage distribution, mean, standard deviation, paired "t" test and chi square test at 0.001 levels off significance with 29 df. The pre-test mean was 17.3 with 9.43 standard deviation and that of post test was 33.7 with 7.26 standard deviation. The calculated 't' value was 13.60, which is higher than the table 't' value 3.65 at 29df with 0.001 level of significance. It shows that there is significant difference ($p < 0.001$) in pre-test and post test knowledge scores. Hence it concluded after structured teaching programme on Non-Pharmacological management of Procedural pain in Neonates the knowledge scores of the Staff nurses have been increased.

Figure 1: Pre-test and post test mean knowledge scores and paired t-test of significance on non-pharmacological management of procedural pain in neonates among staff nurses.

Knowledge scores	Pre test	Post test
Mean	17.3	33.7
Standard Deviation	9.43	7.26
Paired t-test	13.60	

29df

Table t-value 3.65

P<0.001

The above table depicts that the pre-test mean was 17.3 with 9.43 standard deviation and that of post test was 33.7 with 7.26 standard deviation. The calculated 't' value was 13.60, which is higher than the table 't' value 3.65 at 29df with 0.001 level of significance. It shows that there is significant difference ($p < 0.001$) in pre-test and post test knowledge scores.

Hence it concluded after structured teaching programme on Non-Pharmacological management of Procedural pain in Neonates the knowledge scores of the Staff nurses have been increased. The formulated hypothesis for the present study "there will be significant difference in the pre-test and post test knowledge scores of Staff nurses on Non-Pharmacological management of Procedural pain in Neonates" has been accepted because of the significant difference in the pre-test and post test knowledge scores which is evident by the 't' values. Hence H₁ is accepted.

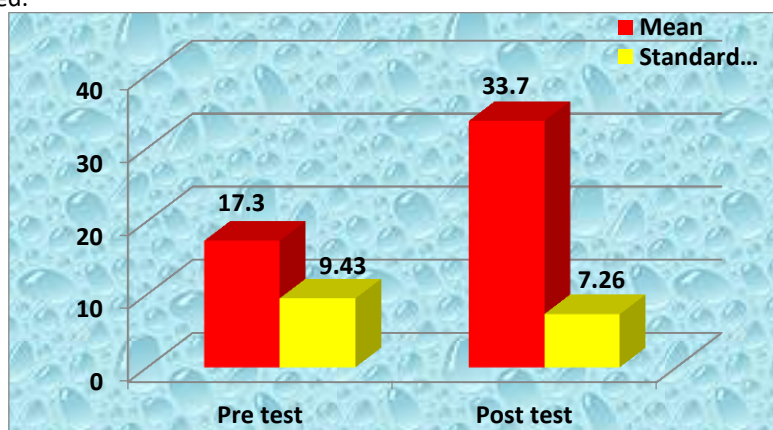


FIGURE .1: Pre-test and post test mean knowledge scores and paired t-test of significance on non-pharmacological management of procedural pain in neonates among staff nurses.

Chi square value was computed to determine the association between the post test knowledge score with selected demographic variables of staff nurses. Significant association was not found between the post test knowledge score with selected demographic variables of staff nurses. Hence H_2 was rejected.

RECOMMENDATIONS:

- A similar study can be carried out in various settings among staff Nurses.
- A similar study can be replicated with experimental and control group.
- A comparative study can be conducted to evaluate the effectiveness of information booklet and structured teaching programme.
- A descriptive study can be conducted to assess the knowledge of staff Nurses regarding Non Pharmacological management of Procedural pain in Neonates.

INTERPRETATION AND CONCLUSION:

The study has showed that there was an overall improvement in the knowledge of the staff nurses after implementation of structured teaching programme.

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